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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,502	09/28/2001	Peidong Wang	CORE-84	7227

7590 10/09/2003  
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EXAMINER

VY, HUNG T

ART UNIT PAPER NUMBER

2828

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/966,502

Applicant(s)

WANG ET AL.

Examiner

Hung T Vy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.



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## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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### **DETAILED ACTION**

1. In response to the communications dated 08/20/2003, claims 1-16 are pending in this application.

### **Acknowledges**

2. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 08/20/2003 and made of record as Paper No. 9. The references cited on the PTOL 1449 form have been considered.

### **Claim Rejections - 35 U.S.C. § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, and 7-11 are rejected under 35 U.S.C. 103 (a) as being unpatentable over A. T. T. D. Tran et al., IEEE Photonics Technology Letters, Vol. 8, No. 3, March 1996 in view of BlomBerg et al., U.S. Patent No. 5,561,523.

Regarding claim 1, 3 and 7, Fig. 2 of A. T. T. D. Tran et al. shows a tunable Fabry-Perot filter comprising: a bottom mirror mounted on the top of a substrate; a thin

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membrane support; and a confocal top mirror set atop said thin membrane support (See first column, first paragraph, page 395), with an air cavity being formed between said bottom mirror and said top mirror; wherein said top electrode and said bottom electrode are spaced further apart from one another than said top mirror is spaced from said bottom mirror; a bottom electrode mounted not to the top of said bottom mirror. However, it would be obvious to one of skill in the art to substitute the electrode of A.T.T. D. Tran with electrode mounted under mirror and a top electrode as membrane support (See first column, second paragraph, page 395) because A. T. T. D. Tran et al. discloses the top and bottom electrode mounted is different with invention but the same result as fabry-Perot Tunable filter, which operates by applying an electric field to the electrodes, as for locations of the electrodes, it would only require routine experimentation of one skilled in the art to determine the optical location for the electrodes. A. T. T. D. Tran et al. does not disclose a reinforce fixed to the outside perimeter of said thin membrane support. However, Blomberg teaches this in Fig. 1b of his patent. Fig. 1b shows the thin membrane, designated by denoting its center area 24, sitting atop and supported by the supports 7. A portion shown on the periphery of the thin membrane is a structural reinforce.

Regarding claim 2, A. T. T. D. Tran et al. discloses a tunable Fabry-Perot filter, wherein said top electrode is spaced further from said substrate than top mirror is spaced from said substrate (see fig. 2).

Regarding claims 8-11, A.T.T. D. Tran et al. discloses all limitation Tunable fabry-Perot filter wherein two electrodes structure in fig. 2.

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5. Claims 4-6 and 12-16 are rejected under 35 U.S.C. 103 (a) as being unpatentable over A. T. T. D. Tran et al., IEEE Photonics Technology Letters, Vol. 8, No. 3, March 1996 in view of BlomBerg et al., U.S. Patent No. 5,561,523 and further in view of M.C. Larson et al., Solid State Electronics Laboratory, Appl. Phys. Lett. 67 (5) 31 July 1995.

Regarding claim 4, 6 and 12, A. T. T. D. Tran et al. discloses all limitation of tunable filter as fig. 2. As can be seen in the figures, and understood by one of ordinary skill in the art, the only difference between the laser and filter is the addition of an active region to the filter represented by multiple well (MWQ) to provide gain. M.C. Larson et al. discloses a MWQ showing in fig. 1. Therefore, it would be obvious to one of ordinary skill in the art to add an active region to the filter in Fig. 2 of A. T. T. D. Tran et al. as teaches by M.C. Larson et al. because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

Regarding claim 5, A. T. T. D. Tran et al. discloses a tunable Fabry-Perot filter, wherein said top electrode is spaced further from said substrate than top mirror is spaced from said substrate (see fig. 2).

Regarding claims 13-16, A.T.T. D. Tran et al. discloses all limitation Tunable fabry-Perot filter wherein two electrodes structure in fig. 2.

### **Conclusion**

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6. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Vy whose telephone number is (703) 605-0759. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
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September 24, 2003